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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,301	07/01/2004	Min-Lung Huang	11574-US-PA	4300
31561	7590	06/06/2005	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			WARREN, MATTHEW E	
			ART UNIT	PAPER NUMBER
			2815	
DATE MAILED: 06/06/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/710,301

Applicant(s)

HUANG, MIN-LUNG

Examiner

Matthew E. Warren

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

This Office Action is in response to the Amendment filed on March 14, 2005.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue (JP 63-239970 A).

In re claim 1, Inoue shows (fig. 1), a wafer level passive component, suitable for a chip, the chip (11) having an active surface (12), a first contact pad (18), a second contact pad (20), and a passivation layer (15), the first and second contact pad disposed on the active surface, the passivation layer disposed on the active surface and exposing the first contact pad and the second contact pad, the wafer level component at least comprising: a first conductive pattern (17), lying over the active surface and having a first connecting area (near portion 18) and a first overlapping area (portion 17), wherein the first connecting area physically connects to the first contact pad and the first overlapping area lies on the passivation layer; a dielectric pattern (21), lying on the first overlapping area of the first conductive pattern, and a second conductive pattern, lying over the active surface and having a second connecting area and a second overlapping area, wherein the second connecting area physically connects to the second contact

pad, the second overlapping area lies on the dielectric pattern, and at least a portion of the dielectric pattern is interposed between the first overlapping area and the second overlapping area.

In re claims 2 and 3, Inoue discloses (abstract) that the first and second conductive patterns includes a metal.

In re claim 6, Inoue shows (fig. 1) that a dielectric layer (21) covers a portion of the first conductive pattern.

Claims 1-3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kano et al. (JP 58-023470 A).

In re claim 1, Kano et al. shows (fig. 2), a wafer level passive component, suitable for a chip, the chip (1) having an active surface (3), a first contact pad (portion of layer 5), a second contact pad (51), and a passivation layer (7), the first and second contact pad disposed on the active surface, the passivation layer disposed on the active surface and exposing the first contact pad and the second contact pad, the wafer level component at least comprising: a first conductive pattern (5), lying over the active surface and having a first connecting area (near portion near contact on substrate) and a first overlapping area (portion 5 over passivation 7), wherein the first connecting area physically connects to the first contact pad and the first overlapping area lies on the passivation layer; a dielectric pattern (18), lying on the first overlapping area of the first conductive pattern, and a second conductive pattern, lying over the active surface and having a second connecting area and a second overlapping area, wherein the second

connecting area physically connects to the second contact pad, the second overlapping area lies on the dielectric pattern, and at least a portion of the dielectric pattern is interposed between the first overlapping area and the second overlapping area.

In re claims 2 and 3, Kano discloses (abstract) that the first and second conductive patterns includes a metal.

In re claim 6, Kano shows (fig. 2) that a dielectric layer (8) covers a portion of the first conductive pattern.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (JP 63-239970 A) as applied to claim 1 above, and further in view of Heida et al. (US 6,777,776 B2) .

In re claims 4 and 5, Inoue shows all of the elements of the claims except the dielectric pattern of aluminum oxide which Heida discloses (col. 11, lines 55-60) to form reduced pinhole formation and ultimately improved the device yield. Aluminum oxide is a high dielectric constant material. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the capacitor

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dielectric of Inoue by using an aluminum oxide layer as taught by Heida to ultimately increase the device yield.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (JP 63-239970 A) as applied to claim 1 above, and further in view of Rinne et al. (US Pub. 2002/0020551 A1 ).

In re claim 7, Inoue shows all of the elements of the claims except the under bump metallurgy layer disposed between the conductive pattern and the first contact pad which Rinne et al. discloses (0044) to provide a plating electrode. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the connection of Nagano by using a under bump metallurgy instead of conductive plugs as taught by Rinne to provide a plating electrode for wafer level component such as a capacitor.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (571) 272-1737. The examiner can normally be reached on Mon-Thur and alternating Fri 9:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MEW

*MEW*

May 31, 2005

  
TOM THOMAS  
SUPERVISORY PATENT EXAMINER